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UNITED STATES DEPARTMENT OF AGRICULTURE

BUREAU OF ENTOMOLOGY

FOREST INSECT INVESTIGATIONS

AMD

MEMORANDUM CONCERNING THE BEAR VALLEY INFESTATION

SAN BERNARDINO NATIONAL FOREST, CALIFORNIA

OCTOBER, 1930

by

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During the past few seasons residents in Bear Valley have become alarmed at the timber losses caused by insects in the recreational areas of the valley. Requests were made that the Forest Service take some action in the matter. The Forest Service asked that a representative of the Bureau of Entomology inspect the area and make recommendations for a course of action to be followed in dealing with the situation. The examinations were made by the writer, Mr. Nelander of the State Department of Forestry and Ranger Munhall, in charge of the Big Bear Ranger District, on October 16 and 17. Another trip to the area was made by Assistant Forester E.E. Carter, Supervisor J.E. Elliott and the writer on October 29, 1930. Representative property owners were met on the evening of October 16. Theyexpressed a desire to know what could be expected of the infestation, and evinced a willingness to cooperate in any action deemed necessary.

Description of the Area

A natural entomological unit is formed by the watersheds of Bear Lake and Baldwin Lake. Toward the west end of Bear Lake a natural boundary is formed by the ridges that approach closely on each side of Bear Creek in the vicinity of the dam. On the north side of the area the boundary follows the main ridge running from the dam northeasterly to Delamar Mountain, thence nearly east to the edge of the pine type near the Holcomb Valley Road, and thence along the north margin of the narrow strip of Jeffrey pine type bordering Bear Valley to the western border of Baldwin Lake. South of Bear Lake the natural boundary extends from the dam southerly along the ridge and edge of Jeffrey pine type, thence easterly along the ridge and limits of Jeffrey pine to Sugarloaf Mountain, and thence nearly due north to the south shore of Baldwin Lake. Practically the entire area lies within the limits of Township 2 N, Ranges 1 E and 1 W. The acreage included in this unit is approximately 28,800 acres, but a considerable portion of the land is devoid of timber.

Most of the timber is on the north exposure to the south of Bear Lake; and it is in this body of timber and in that along the lake shore from Fawnskin Resort west to the dam that the more important insect losses are being experienced. Cabins and resorts are scattered through the open groves of timber surrounding the lake, and camps have been established in most of the accessible timbered lands. However, developed areas on the north shore of the lake do not extend far from the lake, and a considerable portion of the timbered upper slopes south of the lake has not been utilized. The utilization of the timbered lands for cabin and resort sites has resulted in the placing of extremely high values on the timber--values that warrant a treatment of the area similar to that given a park.

Jeffrey pine is the predominant species of conifer in the area, and the stand is almost pure Jeffrey pine on the intensely-utilized areas in the immediate vicinity of the lake. Sugar pine, incense cedar and white fir are scattered through the timber, particularly in the stand south of Bear Lake.

Insect Conditions

There was no evidence that either sugar pine or incense cedar was suffering from attacks of insects. However, a few sugar pines were found in which a brood of the mountain pine beetle had developed, though no trees of this species were found carrying a 1930 brood.

White fir is heavily attacked by the fir engraver beetle, but the losses caused by this insect in Big Bear are no greater than those being experienced in most stands of fir in California. This insect has but one brood per year, and can be combated by cutting and burning infested trees during the late fall, winter and early spring. Much of the injury caused by these insects has taken the form of an attack on the tops of the trees. Often no other attacks are made following the initial one, with the result that the tree does not die, but retains a dead top known as a "spike top". Such trees should not be destroyed, but trees in which the attack has killed half or more of the tree should be treated. Trees containing broods are the only ones worth treating, and it is doubtful if any procedure other than burning the entire tree will prove practicable because of the difficulty in barking this species of conifer.

Jeffrey pine, which is attacked by the Jeffrey pine beetle in this area and also to some extent by flat-headed borers, suffers the more important losses. These losses, however, are scarcely more than the normal endemic losses to be expected in a stand of this type. but they are more than can be afforded in an area utilized as intensively as the area in Bear Valley. It is estimated that approximately 40 Jeffrey pines were attacked and killed during the season of 1930, and probably about this number of trees have been killed each year for some time past. At the time of the examination the insects were in the late larval and pupal stages.

The Jeffrey pine beetle has but one brood a year, and infested trees can be treated any time during the late fall, winter and early spring. The trees may be burned entire; but as firewood has a certain value, the same effectiveness in control can be secured by felling and barking the trees and burning the bark and branches. The barked main trunk of the tree can be utilized as firewood.

Recommendations

As the values at stake warrant park treatment of the area, maintenance or permanent control to reduce the yearly amount of loss to a minimum is advisable. There are two methods of obtaining this control: one through the formation of a legal state control district and supervision of the work by the State Department of Forestry, the other by cooperative effort, with the U.S. Forest Service assisting in supervision of marking infested trees on private lands and in providing for the disposal of infested trees on National Forest lands.

In view of the fact that the Forest Service has offered to assist in the control project, that public sentiment within the area is united, and that there is no immediate critical situation necessitating drastic action, it is recommended that the cooperative method be used. The success of this method depends largely on the degree of interest, initiative and cooperation extended by the land owners and other agencies involved.